

# TECHNIQUES FOR JOINING AN OPTO-ELECTRONIC MODULE TO A SEMICONDUCTOR PACKAGE

## ABSTRACT OF THE DISCLOSURE

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The present invention provides a technique for manufacturing a low cost device that provides a true die to external fiber optic connection. Specifically, the present invention relates to several techniques for joining an optical device package to a semiconductor device package. The first technique involves using wirebond studs and an  
10 adhesive material, the second technique involves the use of an anisotropic conductive film, and the third technique involves the use of solder material. Each of these techniques provides high levels of thermal, electrical and optical performance. The methods apply to optical sub-assembly and chip sub-assembly interfaces in transceivers, transmitters, as well as receivers for opto-electronic packages.

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